IN THE CLAIMS:

Please cancel claims 1, 2, 4, 5, 11-13, 15 and 17, and amend the claims as follows:

1.   Cancelled

2.   Cancelled

3.   (Currently amended) ~~The method according to claim 2, further including~~ A method for reducing the PAP ratio in an OFDM system, comprising:

        dividing a data block into a plurality of clusters;

        determining a respective phase factor for each of the plurality of clusters to form an inversion sequence for reducing the PAP ratio of transmitted data corresponding to the plurality of clusters;

        embedding the inversion sequence onto the transmitted data;

        rotating at least one tone in a first one of the plurality of clusters when the corresponding phase factor rotates the first one of the plurality of clusters; and

        rotating every other tone in the first one of the plurality of clusters.

4.   Cancelled

5.   Cancelled

6.   (Currently amended) ~~The method according to claim 5, further including~~ A method for reducing the PAP ratio in an OFDM system, comprising:

        dividing a data block into a plurality of clusters;

        determining a respective phase factor for each of the plurality of clusters to form an inversion sequence for reducing the PAP ratio of transmitted data corresponding to the plurality of clusters;

        embedding the inversion sequence onto the transmitted data;

        detecting the inversion sequence; and

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computing a test statistic for each of the plurality of clusters to determine the inversion sequence.

7.   (Currently amended) ~~The method according to claim 5, further including~~ A method for reducing the PAP ratio in an OFDM system, comprising:

dividing a data block into a plurality of clusters;

determining a respective phase factor for each of the plurality of clusters to form an inversion sequence for reducing the PAP ratio of transmitted data corresponding to the plurality of clusters;

embedding the inversion sequence onto the transmitted data;

detecting the inversion sequence; and

quantizing the test statistics.

8.   (Original) The method according to claim 7, further including decoding the inversion sequence to a nearest Walsh sequence.

9.   (Original) The method according to claim 7, further including decoding the inversion sequence to a nearest Walsh sequence based upon Hamming distance.

10.   (Original) The method according to claim 7, further including decoding the inversion sequence to a nearest Walsh sequence based upon Euclidean distance.

11.   Cancelled

12.   Cancelled

13.   Cancelled

14.   (Currently amended) ~~The method according to claim 11, further including~~ A method of embedding PAP-reducing inversion sequences onto transmitted data, comprising:

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determining an initial PAP value for a block of symbols;

partitioning the block of symbols into a predetermined number of clusters;

selecting a respective phase factor for each of the clusters so as to form an inversion sequence that reduces a PAP of transmitted data corresponding to the block of symbols;

embedding the inversion sequence onto the transmitted data by rotating selected tones in each of the clusters based upon a value of the associated phase factor; and

selecting the inversion sequence from predetermined Walsh sequences.

15.   Cancelled

16.   (Currently amended) ~~The method according to claim 11, further including~~ A method of embedding PAP-reducing inversion sequences onto transmitted data, comprising:

determining an initial PAP value for a block of symbols;

partitioning the block of symbols into a predetermined number of clusters;

selecting a respective phase factor for each of the clusters so as to form an inversion sequence that reduces a PAP of transmitted data corresponding to the block of symbols;

embedding the inversion sequence onto the transmitted data by rotating selected tones in each of the clusters based upon a value of the associated phase factor; and

rotating every other tone in each cluster having an associated phase factor that rotates the cluster.

17.   Cancelled

18.   (Currently amended) ~~The method according to claim 17, further including~~ A method of embedding PAP-reducing inversion sequences onto transmitted data, comprising:

determining an initial PAP value for a block of symbols;

partitioning the block of symbols into a predetermined number of clusters;

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selecting a respective phase factor for each of the clusters so as to form an inversion sequence that reduces a PAP of transmitted data corresponding to the block of symbols;

embedding the inversion sequence onto the transmitted data by rotating selected tones in each of the clusters based upon a value of the associated phase factor;

detecting the inversion sequence; and

computing a test statistic for each cluster.

19.   (Original) The method according to claim 18, further including selecting the inversion sequence from a nearest one of predetermined Walsh sequences.

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